METHOD AND SYSTEM FOR ADMINISTERING MULTIPLE MESSAGES OVER A PUBLIC SWITCHED TELEPHONE NETWORK

CROSS-REFERENCE TO RELATED APPLICATIONS

5   The present application claims the benefit of commonly owned U. S.

Provisional Patent Application No. 60/261,893, filed 16 January 2001, which is

hereby incorporated by reference in its entirety.

BACKGROUND OF THE INVENTION

10   The present invention generally relates to unified messaging systems, and more

specifically, but not exclusively, concerns a unified messaging system in which

multiple messages can be administered with a telephone over a public switched

telephone network.

        Unified messaging systems are used to store different types of messages, such

15   as emails, voicemails and faxes, in one location. Subscribers to the unified messaging

system can conveniently retrieve their email, voicemail, and fax messages by using a

telephone, a computer, or a facsimile machine. One problem created by this

convenience of having the messages stored in one location is that the inbox of a

subscriber can become quickly inundated with a large number of duplicate or

20   unsolicited messages.

        Although predefined filters can be used to filter out unsolicited email messages

and/or redirect specified email messages, the filter may not be easily modified to

handle new conditions, such as duplicate messages from a new source. This filtering

problem is especially of concern when the subscriber is away from the office. In this

situation, the subscriber typically does not have access to a computer and must use a

telephone to retrieve the messages. When the subscriber has a large number of

messages, the subscriber can be quickly frustrated by having to individually listen to

and administer each message with the telephone. Therefore, there has been a long-felt

5   need for a unified messaging system in which a subscriber can easily administer

multiple messages at the same time using a telephone over a public switched telephone

network.

SUMMARY OF THE INVENTION

One form of the present invention is a unique method for processing multiple messages for a unified messaging system over a public switched telephone network. Other forms concern unique methods, systems, and apparatus for administering

5   multiple messages over a public switched telephone network.

In a further form, a computer is configured to store messages in a database. The computer is operatively coupled over a public switched telephone network to a telephone operated by a person. A command from the telephone is received over this network to administer multiple messages having a common trait. The multiple

10   messages having the common trait are administered in the database in response to this command.

Another form concerns a unique unified messaging system. The system includes a means for storing messages. The system further includes a means for receiving over a public switched telephone network a signal from a telephone

15   corresponding to an administer multiple messages command for multiple messages having a common trait. This system further includes means for administering the multiple messages having the common trait in response to the administer multiple messages command.

Still yet another form concerns a unique apparatus. The apparatus includes a

20   computer-readable device encoded with a program executable by a computer to store messages. The program is further executable to receive from a telephone public switched network an input corresponding to a selection of multiple messages for administration that have at least one common trait. The program is executable to

administer the selected multiple messages in the stored messages in response to the

input.

Another form of the present invention includes a system that comprises a

database containing a number of messages and a processor operatively coupled to the

5   database. The processor is responsive to an input over a public switched network from

a telephone. The input corresponds to a command for selected multiple messages in

the database, and the processor is operable to administer the selected multiple

messages in the database.

Other forms, embodiments, objects, features, advantages, benefits and aspects

10 of the present invention shall become apparent from the detailed drawings and

description contained herein.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagrammatic view of a communications system.

FIG. 2 is a flow diagram illustrating one process for deleting multiple messages from a unified messaging system over a public switched telephone network.

5   FIG. 3 shows a diagrammatic view of a message table for the system of FIG. 1.

FIG. 4 shows a lookup table for the system of FIG. 1.

FIG. 5 is a flow diagram illustrating one process of transferring multiple messages to a designated folder with a telephone over the public switched telephone network.

10   FIG. 6 is a flow diagram illustrating another process for deleting multiple messages from the unified messaging system over the public switched telephone network.

FIG. 7 is a diagram of hierarchical voice menus used for administering multiple messages for the system of FIG. 1.

DESCRIPTION OF SELECTED EMBODIMENTS

For the purposes of promoting an understanding of the principles of the

invention, reference will now be made to the embodiments illustrated in the drawings

and specific language will be used to describe the same. It will nevertheless be

5   understood that no limitation of the scope of the invention is thereby intended. Any

alterations and further modifications in the described embodiments, and any further

applications of the principles of the invention as described herein are contemplated as

would normally occur to one skilled in the art to which the invention relates. One

embodiment of the invention is shown in great detail, although it will be apparent to

10   those skilled in the art that some of the features which are not relevant to the invention

may not be shown for the sake of clarity.

In one embodiment of the present invention, a subscriber reviews messages

stored in a unified messaging system over a public switched telephone network by

using a telephone. After hearing the message on the telephone, the subscriber can

15   delete multiple messages based on a common trait shared between the multiple

messages, such as the subject or sender of the messages. In another form, the

subscriber is able to delete the multiple messages without having to listen to a

message. The unified messaging system in a further form allows the subscriber over

the telephone to file multiple messages sharing at least one common trait into a

20   designated file.

FIG. 1 depicts a communication system 100 according to one embodiment of

the present invention in diagrammatic form. The communication system includes a

subscriber telephone 102, a facsimile machine 104, a caller telephone 106, and a pager

108 that are operatively coupled to a public switched telephone network 110 (PSTN).

A unified messaging system 120 is operatively coupled to the public switched

telephone network 110. The unified messaging system 120 includes a processor 122

and a database 124 that is operatively coupled to the processor 122. The unified

5   messaging system 120 is further operatively coupled to an email server 130, and both

the unified messaging system 120 and the email server 130 are operatively coupled to

computer network 140. An outside computer 150 and a subscriber computer 160 are

also operatively coupled to computer network 140.

The telephones 102, 106 can be of any type generally known by those skilled

10   in the art, such as standard land line varieties and wireless varieties. It should be

appreciated that the telephones 102, 106 can be directly connected to the public

switched telephone network 110 and/or indirectly through a wireless network. The

facsimile machine 104 can be a standard facsimile machine, a computer equipped with

a fax-modem, and/or a different type of facsimile device as would occur to those

15   skilled in the art. The pager 108 is of any variety generally known by those skilled in

the art.

In one form, the unified messaging system 120 is incorporated into an

automatic call distribution (ACD) system. The unified messaging system 120 can be

located on a single server or distributed over several servers. The processor 122 of the

20   unified messaging system 120 may be comprised of one or more components. For a

multi-component form of the processor 122, one or more components can be located

remotely relative to the others, or configured as a single unit. Furthermore, processor

122 can be embodied in a form having more than one processing unit, such as a

multiprocessor configuration, and should be understood to collectively refer to such

configurations as well as a single-processor based arrangement. One or more

components of the processor 122 may be of the electronic variety defining digital

circuitry, analog circuitry, or both. Processor 122 can be of a programmable variety

5   responsive to software instructions, a hardwired state machine, or a combination of

these. The database 124 can be a standard file, a combination of files, a standard

database program, a relational database, a SQL (structured query language) database,

and/or other type of data storage structure as generally known to those skilled in the

art. In one embodiment, the database 124 is a MICROSOFT SQL SERVER

10   (Microsoft Corporation, Redmond, Washington). The database 124 is stored in a

memory (not shown) associated with the processor 122. This memory can include one

or more types of solid state memory, magnetic memory, or optical memory, just to

name a few. By way of nonlimiting example, the memory can include solid state

electronic random access memory (RAM), sequential accessible memory (SAM), such

15   as first-in, first-out (FIFO) variety, or the last-in, first-out (LIFO) variety,

programmable read only memory (PROM), electronically programmable read only

memory (EPROM), or electrically erasable programmable read only memory

(EEPROM); an optical disc memory (such as DVD or CD ROM); a magnetically

encoded hard disk, floppy disk, tape, or cartridge media; or a combination of these

20   memory types. In addition, the memory for the database 124 may be volatile, non-

volatile, or a hybrid combination of volatile, non-volatile varieties.

The email server 130 is adapted to maintain multiple mailboxes for different

subscribers. The email server 130 can be any type of email server as generally known

by those skilled in the art. In one form, the email server 130 is a MICROSOFT

EXCHANGE SERVER (Microsoft Corporation, Redmond, Washington), and all the

messages are stored in the email sever 130. The unified messaging system 120 has

universal privileges so as to access all of the inboxes on the email server 130.

5   However, it should be understood that the unified messaging system 120 can have

more limited privileges relative to the email server 130. The unified messaging

system 120 and the email server 130 communicate with one another in a manner as

generally known by those skilled in the art, such as using ActiveX control technology.

It should be appreciated that instead of storing the messages in the email server

10   130, all of the messages can be stored in the database 124. It should be understood

that the email server 130 and the unified messaging system 120 can be integrated into

a single server or distributed over several servers. Further, the unified messaging

system 120 can be connected to one or multiple email servers 130. In one form, the

database 124 and the email server 130 are integrated together so as to form a single

15   message database. In another form, the unified messaging system 120 and the email

server 130 are loaded on separate severs in order to reduce the risk that messages will

be lost if the email server 130 becomes inoperative.

Network 140 can include the Internet, one or more other wide area networks

(WAN), a local area network (LAN), a proprietary network such as provided by

20   American On Line, Inc., a combination of these, and/or a different type of network

generally known to those skilled in the art. The computers 150, 160 can include a

personal computer, a computer terminal, a personal digital assistant (PDA), and/or

other types of devices generally known to those skilled in the art. The computers 150,

160 have software that allows the computers 150, 160 to communicate over the

network 140. This software can include an email application, a web browser, a chat

program, and other types of client software generally known to those skilled in the art.

In one embodiment, the computers 150, 160 are personal computers having web

5   browser and email client software.

The unified messaging system 120 is able to process and store different types

of messages received through various channels. In the particular embodiment

described below, all of the messages are stored as email messages on the email server

130. These stored email messages include fields as generally known by those skilled

10   in the art, such as subject fields, sender name fields, date/time fields, and recipient

fields. The stored messages further can include fields to indicate in which form the

original message was sent (e.g., email, fax, and voicemail).

In operation, a person using the fax machine 104 can fax a message to the

subscriber by sending the fax over the public switched telephone network 110. The

15   processor 122 processes the fax and stores the fax as a message on the email server

130. In one form, the fax is stored in a pixelated, graphic form as a bitmap file

attachment to the message and the sender name for the message is the fax machine

telephone number. Alternatively or additionally, the processor 122 can use optical

characteristic recognition (OCR) software to convert the fax transmission to a text

20   message. Once the fax is converted to a text message, the processor 122 can then

determine information, such as the name of the sender, the name of the recipient, and

the subject of the message.

A person can leave a voicemail message for a particular subscriber or a group of subscribers by using the caller telephone 106. The processor 122 processes the incoming call, and if the called subscriber is not available, the unified messaging system 120 prompts the person to leave a voicemail message. In one form, the voicemail is stored as a sound file (such as a ".wav" file) and is attached to a message stored in the inbox for the subscriber on the email server 130. Alternatively or additionally, the processor 122 can use speech-to-text conversion software to convert the voicemail message to a text message for storage on the email server 130. A person using the caller telephone 106 can also page a subscriber with pager 108. If the pager 108 is not available, the page message is processed by processor 122 and is stored as a text (or voice) message on the email server 130.

Messages from a person can also be sent over the network 140 by using the computer 150. The messages sent from the computer 150 can be in the form of an email, an Internet telephone call, a chat request, a submitted web form, and/or other forms of communication as generally known by those skilled in the art. It should be appreciated that the messages from the network can be processed by the unified messaging system 120, the email server 130, or a combination of both. For example, in one embodiment, the email server 130 processes the email messages and the unified messaging system 120 processes the other forms of communication from the network 140.

A subscriber using the subscriber computer 160 can view or listen to the messages stored on the email server 130. When the subscriber is away from the subscriber computer 160, the subscriber uses the subscriber telephone 102 to access

the messages stored on the email server 130. With the subscriber telephone 102, the

subscriber places a call to the unified messaging system 120 and logs into the unified

messaging system 120. Once the subscriber logs onto the unified messaging system

120, the processor 122 is able to identify the subscriber and retrieve the messages for

5   the subscriber from the email server 130. The unified messaging system 120 has a

voice menu system that is used by the subscriber to navigate through the system 120.

For example, a subscriber using the telephone 102 can use the touch tone keys on the

subscriber telephone 102 to navigate within the unified messaging system 120. It is

further contemplated that the unified messaging system 120 can accept voice

10   commands from the subscriber.

When a subscriber initially checks the messages, the unified messaging system

120 tells the subscriber how many emails, voice mail messages, faxes, and pages the

subscriber has (e.g., "You have 4 email messages, 2 voicemail messages, and 1 fax

message"). When the subscriber selects to listen to the messages, the processor 122

15   retrieves the messages for the particular subscriber one at a time from the email server

130. The unified messaging system 120 transmits the messages over the public

switched telephone network 110 to the subscriber telephone 102. If for example the

message is a text message, such as an email or an OCR converted fax, the processor

122 uses text-to-speech conversion software to convert the text of the message to

20   speech so that the subscriber can listen to the message. If the message on the other

hand is a voicemail message and/or contains a sound file, the processor 122 plays the

voicemail message and/or the sound file.

A method for deleting multiple messages over the public switched telephone network 110 with the subscriber telephone 102 according to one embodiment of the present invention will now be described with reference to flow diagram 200 shown in FIG. 2. When a subscriber wishes to review the messages stored on email server 130,

5   the processor 122 in stage 202 retrieves one message from the email server 130. Once the message is retrieved from the email server 130, the processor 122 using the database 124 determines if a particular trait in the message has been flagged in stage 204. Initially, when the subscriber listens to the first message no traits are flagged in the database 124. Traits of the message can include the type of message, such as a

10 fax, email, voice mail, page, etc.; the date/time when the message was received; the sender of the message; the recipient(s) of the message; the subject of the message; particular words contained in the message; or any combination of these.

When the message does not contain any of the flagged traits stored in the database 124, the processor 122 plays the message to the subscriber telephone 102 in

15 stage 206. After the message is played, the subscriber can delete the single message or command the unified messaging system 120 to delete all messages having the same selected trait(s) as the played message. If the unified messaging system 120 receives a delete current message command from the subscriber telephone 102, the unified messaging system 120 deletes the previously played message (stage 214). The

20 message is deleted from the unified messaging system 120 in a manner as generally known by those skilled in the art. In one form, a pointer to the message is changed so as to indicate that the message has been read. In another form, the message is removed from the database 124. It should be appreciated that the messages can be

deleted in other generally known manners. In stage 210, when the unified messaging system 120 receives a command instructing the system 120 to delete messages containing a trait or traits similar to the previously played message, the processor 122 stores in stage 212 the trait(s) in the database 124. Following stage 212, the unified

5   messaging system 120 deletes the current message in stage 214 and retrieves the next message from the email server 130 in stage 202. So for example, if the played message is from "John Smith" and the subscriber selects to delete all messages from the same sender, then all messages from "John Smith" will be deleted from the inbox of the subscriber. After deleting the messages, the unified messaging system 120 can

10   indicate to the subscriber that the messages have been deleted (e.g., "All messages from John Smith have been deleted"). If no delete multiple messages command is received in stage 210, the unified messaging system 120 then retrieves the next message in stage 202.

       When the next message is retrieved in stage 202, if the retrieved message in

15   stage 204 contains the flagged trait (e.g., sender is "John Smith"), then the current message is deleted in stage 214 and the message is not played. The processor 122 then in stage 202 retrieves the next message, and this process continues until all the messages have been reviewed. The above-described deletion method provides a simple interface between the unified messaging system 120 and the email server 130,

20   and administration of the messages does not depend on the capabilities of the email server 130. If the connection between the unified messaging system 120 and the subscriber telephone 102 is prematurely disconnected, the processor 122 discontinues retrieving and deleting messages, and the database 124 is purged of all of the flagged

traits. In another form, once the subscriber is no longer connected to the unified

messaging system 120, the processor 122 continues to retrieve and delete the messages

of the subscriber until all of the messages have been processed. Instead of the

processor 122 deleting one message at a time from the email server 130, the processor

5   122 in another form deletes all of the messages having similar traits from the email

server 130 at the same time. It should be appreciated that the above-described method

can be used delete messages from other folders (directories) besides the inbox of the

subscriber. Further, it should be understood that the above-described method can be

modified to forward similar messages.

10   An example of a command interface for designating the messages to delete

according to one form of the present invention will now be described. After or while

the message is played in stage 206, the subscriber can enter a delete command. The

unified messaging system 120 waits to receive the delete command for a specified

period of time (e.g., 5 seconds) after the message is played. Instead of using a time

15   delay to enter commands, the subscriber can press the "#" key on the subscriber

telephone 102 to indicate that the delete command is complete. In order to delete only

the previously played message, the subscriber just presses the "7" touch-tone key on

the subscriber telephone 102 (stage 208). If, for example, the subscriber presses the

"7" and "1" keys on the subscriber telephone 102, the unified messaging system 120

20   will flag to delete all messages containing the same subject as the previously played

message. Table 1 (below) lists exemplary key combinations and the corresponding

commands (traits to flag).

Table 1

KEY(S)	COMMAND
7	Delete current message only.
71	Delete messages containing the same subject.
72	Delete messages from the same sender.
73	Delete messages containing the same recipients.
74	Delete same type of messages.
75	Delete messages received on the same date.
76	Delete messages with bodies containing the same text.

It should be appreciated that other key combinations can be used for the

commands and other traits can be designated besides the ones shown. Further,

5   multiple traits from the played message can be used in order to select the multiple

messages marked for deletion. For example, the subject and the sender of the played

message can be flagged by pressing the "7", "1", and "2" keys so that messages

containing the same subject and sender will be deleted. In another form, voice

commands are used in order to designate the multiple messages to delete from the

10   unified messaging system 120.

An example of a message table 300 in which the messages are stored in the

email server 130 is shown in FIG. 3. It should be appreciated that the message table

300 can be stored as a single table, in multiple tables and/or in other combinations

generally known by those skilled in the art. The message table 300 includes a

15   message identification number field 302, a message type field 304, a date/time field

306, a sender field 308, a recipient field 310, a subject field 312, and a message body

314. The fields in the message table 300 are used as message traits for administering

the messages. It should be appreciated that the message table 300 can include other

generally known fields and/or omit certain fields. The message ID field 302 is used to

5   identify the particular message. The message type field 304 is used to indicate how

the original message was sent, whether by fax, email, voicemail, page, or by some

other manner. The date/time field 306 is used to indicate when the message was

received, and the sender field 308 is used to identify who sent the message. The

message body field 314 contains the body of the message.

10   When a message is received over the public switched telephone network 110,

the processor 122 stores the caller identification number (if available) in the sender

field 308. Likewise, the extension number for internal voicemail messages are stored

in the sender field 308. The recipient field 310 can include the email addresses of the

recipients of the message, the extension numbers of the recipients, the telephone

15   numbers of the recipients, and other types of generally known identification

information. For faxes, the subject field 312 and the other fields can be determined

using the OCR software. For voicemail, the unified messaging system 120 can prompt

the person leaving a voicemail message to fill in the above-described fields such as the

subject field 312. The unified messaging system 120 then uses speech-to-text

20   conversion software in order to fill text into the fields for the voicemail message.

As shown in FIG. 4, the unified messaging system 120 in one form stores in

the database 124 a lookup table 400 for identifying senders and recipients of the

messages. The lookup table 400 includes a name field 402, a phone number field 404,

a fax number field 406, an email field 408, an address field 410, and other types of

generally known identification fields. The unified messaging system 120 identifies

the name of a particular person based on the caller identification number, and the

unified messaging system 120 then stores the name of sending party in the sender field

5   308 in the message table 300. The processor 122 compares the information in the

message in the sender 308 and recipient 310 fields with the lookup table 400 to

determine the name of the person(s) and/or organization(s). This feature allows the

subscriber to delete all of the message from a particular person, even if that person has

sent different types of messages, such as an email and a fax. For example, as shown in

10   FIG. 4, "Pat Jones" has "(123) 456-7890" as a fax number, and as shown in FIG. 3,

the fax message for message identification number "1" has a sender of "(123) 456-

7890." The unified messaging system 120 then can infer that "Pat Jones" sent the fax

and use this information when administering the messages. It should be appreciated

that the unified messaging system 120 can use this lookup table 400 for identification

15   when the message is received, retrieved, or at other times.

A method for filing messages into selected folders (directories) through the

subscriber telephone 102 will now be described in reference to flow diagram 500

shown in FIG. 5. This method allows a subscriber to file multiple messages having at

least one common trait into designated folders using the subscriber telephone 102. In

20   stage 502, the processor 122 retrieves a message from the email server 130. The

unified messaging system 120, in stage 504, transmits the message over the public

switched telephone network 110 to the subscriber telephone 102. After or while the

message is played, the subscriber can send a file similar messages command to the

unified messaging system 120 in stage 506. In one form, the subscriber enters the

command using the touch-tone keys on the subscriber telephone 102. It should be

understood that the command can also be entered using voice commands. Table 2

(below) is an exemplary list of touch-tone key combinations and the corresponding

5   commands.

Table 2

KEY(S)	COMMAND
8	File current message only.
81	File messages containing the same subject.
82	File messages from the same sender.
83	File messages containing the same recipients.
84	File same type of messages.
85	File messages received on the same date.
86	File messages with bodies containing the same text.

If the processor 122 does not receive the file similar messages command from

10   the subscriber telephone 102, then the next message is retrieved in stage 502.

However, if the file similar messages command is received, the unified messaging

system 120 in stage 508 prompts the subscriber to select a file folder in which to file

the messages. In one embodiment, the unified messaging system transmits a voice

menu list to the subscriber telephone 102 listing the folder names of the folders stored

15   on the email server 130 and corresponding numbers, which are used to select a

particular folder. For example, one such voice menu list can be "press 1 to store the messages in the personal folder, and press 2 to store the messages in the contact folder." The subscriber selects the folder by pressing the corresponding key on the keypad of the subscriber telephone 102.

5   After the subscriber indicates in which folder to file the messages, the processor 122 instructs the email server 130 in stage 510 to file all the messages having the common trait into the designated folder. Afterwards, the unified messaging system 120 retrieves the next message. It should be appreciated that instead of filing all the messages at once, the messages can be filed individually when each message is

10   retrieved (see FIG. 2). Further, the above-described method shown in flow diagram 500 can be adapted to delete messages by sending the message to a "trash bin" folder, in which the messages contained in the trash bin are deleted. It should be appreciated that the above-described method can also be adapted to forward selected message to other subscribers.

15   In another embodiment that is illustrated in flow-chart 600 (FIG. 6), the subscriber can administer designated messages before having to review the messages. Before the subscriber reviews the messages, the subscriber can enter in a search term using the subscriber telephone 102. In one embodiment, the subscriber enters the search term using the keypad on the subscriber telephone 102. The subscriber spells

20   out the search term by pressing the keys having the corresponding letters. So for example, if the subscriber wanted to enter the word "CAT" as a search term, the subscriber would sequentially press the "2", "2" and "8" keys on the subscriber telephone 102. If the subscriber telephone 102 does not show the "Q" and "Z" letters

on the keypad, the "7" key is used to represent the letter "Q" and the "9" key is used to

represent the letter "Z." Once the subscriber finished keying in the search term on the

keypad, the subscriber can press the "#" key to indicate that the search term is

complete.

5   After the search term is entered, the processor 122 in stage 604 searches the

messages stored in the email server 130 for terms corresponding to the entered search

term. Since each key on the keypad includes multiple letters, words other than the

search term can match a specific key combinations by the subscriber. For example,

the words "CAT" and "BAT" are both spelled by sequentially pressing the "2", "2"

10   and "8" keys. To solve this problem, the unified messaging system 120 in stage 604

generates an index of possible search terms from the messages stored on the email

server 130 and stores the index in the database 124. In stage 606, the unified

messaging system 120 transmits the index of possible search terms to the subscriber

telephone 102. In one embodiment, the index of possible search terms is a voice menu

15   list of terms and corresponding numbers. The subscriber in stage 608 selects one of

the indexed terms by pressing the corresponding number(s) on the keypad of the

subscriber telephone 102. In stage 610, the processor 122 deletes the messages

containing the selected search term in a manner corresponding to the above-described

methods. It should be understood that instead of deleting the messages, the unified

20   messaging system 120 can file the messages containing the selected search terms into

a designated folder. It should be appreciated that a menu system can be used in

conjunction with the entered search term in order to limit the search to specific fields

in the messages.

In another embodiment, the subscriber can administer multiple messages having a common trait using the subscriber telephone 102 before listening to the messages. A hierarchical voice menu diagram 700 according to this embodiment is shown in FIG. 7. When a subscriber wishes to delete a message beforehand, the

5   processor 122 transmits a trait selection voice menu 702 to the subscriber telephone 102. The trait menu 702 lists particular traits and corresponding numbers for designating the common traits.

Once a specific trait is selected, the processor 122 indexes the message list 300 in order to generate index of terms for the particular trait. For example, if the

10   subscriber presses the "1" key, the processor 122 indexes the messages based on subject and then presents the subscriber with a subject voice menu 704. If the subscriber presses the "2" key, then the processor 122 indexes the messages based on the sender and transmits a sender voice menu 706 to the subscriber telephone 102, and if the "3" key is pressed on the subscriber telephone 102, then a recipient voice menu

15   708 is sent. For example, as shown in the subject menu 704, the subject fields 312 of the messages contain the terms "Meeting", "Sales" and "Report" (see FIG. 3).

The subscriber selects the common trait by selecting the number corresponding to the desired trait. For example, as shown, the subscriber presses the "2" key to select the "Sales" trait. Once the subscriber presses the corresponding key, messages

20   containing that particular trait are then either deleted from the email server 130 or filed into a designated folder depending on the wishes of the subscriber. It should be appreciated that the menu 700 can include submenus to further define the particular message to delete. For example, under the subject menu 704, the subscriber could be

presented with the sender menu 706 or the recipient menu 708 in order to further define the particular messages to delete. Further, it should be understood that voice input can be used instead of pressing the keys on the subscriber telephone 102.

5   While specific embodiments of the present invention have been shown and described in detail, the breadth and scope of the present invention should not be limited by the above described exemplary embodiments, but should be defined only in accordance with the following claims and their equivalents. All changes and modifications that come within the spirit of the invention are desired to be protected.